MP

```
MM      MM  PPPPPPPP      CCCCCCCC  LL          RRRRRRRR  PPPPPPPP  FFFFFFFFFF  MM      MM
MM      MM  PPPPPPPP      CCCCCCCC  LL          RRRRRRRR  PPPPPPPP  FFFFFFFFFF  MM      MM
MMMM  MMMM  PP      PP  CC          LL          RR    RR  PP    PP  FF          MMMM  MMMM
MMMM  MMMM  PP      PP  CC          LL          RR    RR  PP    PP  FF          MMMM  MMMM
MM  MM  MM  PP      PP  CC          LL          RR    RR  PP    PP  FF          MM  MM  MM
MM  MM  MM  PP      PP  CC          LL          RR    RR  PP    PP  FF          MM  MM  MM
MM      MM  PPPPPPPP    CC          LL          RRRRRRRR  PPPPPPPP  FFFFFFFF    MM      MM
MM      MM  PPPPPPPP    CC          LL          RRRRRRRR  PPPPPPPP  FFFFFFFF    MM      MM
MM      MM  PP          CC          LL          RR  RR    PP        FF          MM      MM
MM      MM  PP          CC          LL          RR  RR    PP        FF          MM      MM
MM      MM  PP          CC          LL          RR    RR  PP        FF          MM      MM   ....
MM      MM  PP                CCCCCCCC  LL          RR    RR  PP        FF          MM      MM   ....
MM      MM  PP          CCCCCCCC  LLLLLLLLLL  RR    RR  PP        FF          MM      MM   ....
                                                                                               ....

LL          IIIIII      SSSSSSSS
LL          IIIIII      SSSSSSSS
LL            II      SS
LL            II      SS
LL            II      SS
LL            II      SS
LL            II        SSSSSS
LL            II        SSSSSS
LL            II              SS
LL            II              SS
LL            II              SS
LL            II              SS
LLLLLLLLLL  IIIIII      SSSSSSSS
LLLLLLLLLL  IIIIII      SSSSSSSS
```

```
0000      1          .TITLE MPCLRPFM
0000      2          .IDENT 'V04-000'
0000      3
0000      4
0000      5 ;*******************************************************************
0000      6 ;*                                                                *
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0000     24 ;*                                                                *
0000     25 ;*                                                                *
0000     26 ;*******************************************************************
0000     27
0000     28
0000     29 ;++
0000     30
0000     31 ; Facility:  Multi-processor performance measurement tool to re-init data cells
0000     32
0000     33 ; Abstract:  This module resets all performance accumulators to zero.
0000     34
0000     35 ; Environment: MODE=Kernel
0000     36
0000     37 ; Author:  Kathleen D. Morse, Creation date:  27-Aug-1981
0000     38
0000     39 ; Modified by:
0000     40
0000     41 ;       V03-002 KDM0032          Kathleen D. Morse        22-Nov-1982
0000     42 ;               Remove wait time before secondary reschedule histogram.
0000     43 ;               Add secondary executed kernel system service histogram.
0000     44
0000     45 ;--
0000     46
0000     47
0000     48
0000     49 ; Include files:
0000     50 ;
0000     51
0000     52
0000     53 ; MACROS:
0000     54 ;
0000     55
0000     56
0000     57 ; Equated Symbols:
```

```
                              0000    58 ;
                              0000    59
                              0000    60            $IPLDEF
                              0000    61            $PCBDEF
                              0000    62            $PHDDEF
                              0000    63
                              0000    64
                    00000000  0000    65 HST_L_CELLCOUNT = 0
                    00000004  0000    66 HST_L_CELLWIDTH = 4
                    00000008  0000    67 HST_L_OVRFLOW = 8
                    00000010  0000    68 HST_L_FIRSTCELL = 16
                              0000    69
                    00000000  0070    70            .PSECT  RO_DATA LONG,NOWRT,NOEXE
                              0000    71
                              0000    72
                    00000000  0073    73            .PSECT  CODE BYTE,NOWRT,EXE
                              0000    74 CLRPFM::
                              0000    75            .ENABL  LSB
                         0000 0000    76            .WORD   0
                              0002    77            $CMKRNL_S        B^CLRDATA
                              000E    78            $EXIT_S RO
                              0017    79 ;
                              0017    80 ; CLRDATA - This routine goes into kernel mode and clears the performance
                              0017    81 ; data.
                              0017    82 ;
                              0017    83 CLRDATA::
                         007C 0017    84            .WORD   ^M<R2,R3,R4,R5,R6>
                              0019    85            SETIPL  #IPL$_TIMER             ;Synchronize on primary processor
                50       D4   001C    86            CLRL    RO                      ;Assume error code exit
        56  00000000'GF  DO   001E    87            MOVL    G^EXE$GL_MP,R6          ;Get adr of loaded MP code
                    03   12   0025    88            BNEQ    5$                      ;Br if MP code is loaded
                  00F4   31   0027    89            BRW     ERR_EXIT                ;Br if MP code not loaded
                              002A    90
            51    06   9A     002A    91 5$:        MOVZBL  #6,R1                   ;One counter for K,E,S,U,I,C and null
        0000'C641   D4         002D    92 10$:       CLRL    MP$$AL_CPUTIME(R6)[R1]
              F8 51  F4        0032    93            SOBGEQ  R1,10$
                              0035    94
            51    05   9A     0035    95            MOVZBL  #5,R1
      00000000'GF41   D4       0038    96 20$:       CLRL    G^PMS$GL_KERNEL[R1]
              F6 51  F4        003F    97            SOBGEQ  R1,20$
                              0042    98
        50  00000000'GF   9E   0042    99            MOVAB   G^SCH$GL_NULLPCB,RO
              50   6C AO  DO   0049   100            MOVL    PCB$L_PHD(RO),RO
                 38 AO  D4     004D   101            CLRL    PHD$L_CPUTIM(RO)
                              0050   102
           0000'C6  D4         0050   103            CLRL    PFM$L_CNT_CTXSW(R6)
           0000'C6  D4         0054   104            CLRL    PFM$L_CNT_RESCH(R6)
           0000'C6  D4         0058   105            CLRL    PFM$L_CNT_SCHDS(R6)
           0000'C6  D4         005C   106            CLRL    PFM$L_CNT_INVAL(R6)
           0000'C6  D4         0060   107            CLRL    PFM$L_CNT_IWAIT(R6)
           0000'C6  D4         0064   108            CLRL    PFM$L_CNT_EXCHG(R6)
           0000'C6  D4         0068   109            CLRL    PFM$L_CNT_ASTSC(R6)
           0000'C6  D4         006C   110            CLRL    PFM$L_CNT_NWAIT(R6)
                              0070   111
        50  0000'C6   9E       0070   112            MOVAB   PFM$A_HIST_TIME(R6),RO
        51  04   60  C5        0075   113            MULL3   HST_L_CELLCOUNT(RO),#4,R1
              51  OC  CO       0079   114            ADDL    #12,RT                  ;Add in overflow cell
```

```
              50   08   CO  007C  115              ADDL    #HST_L_OVRFLOW,R0
      60  51  00   60   00   2C  007F  116              MOVC5   #0,(R0),#0,R1,(R0)          ;Clear performance meas data
                              0085  117
              50  0000'C6   9E  0085  118              MOVAB   PFM$A_HIST_SRV(R6),R0
              51   04   60   C5  008A  119              MULL3   HST_L_CELLCOUNT(R0),#4,R1
                   51   0C   CO  008E  120              ADDL    #12,R1
                   50   08   CO  0091  121              ADDL    #HST_L_OVRFLOW,R0           ;Add in overflow cell
      60  51  00   60   00   2C  0094  122              MOVC5   #0,(R0),#0,R1,(R0)          ;Clear performance meas data
                              009A  123
              50  0000'C6   9E  009A  124              MOVAB   PFM$A_HIST_CTX(R6),R0
              51   04   60   C5  009F  125              MULL3   HST_L_CELLCOUNT(R0),#4,R1
                   51   0C   CO  00A3  126              ADDL    #12,R1
                   50   08   CO  00A6  127              ADDL    #HST_L_OVRFLOW,R0           ;Add in overflow cell
      60  51  00   60   00   2C  00A9  128              MOVC5   #0,(R0),#0,R1,(R0)          ;Clear performance meas data
                              00AF  129
              50  0000'C6   9E  00AF  130              MOVAB   PFM$A_HIST_PGFL(R6),R0
              51   04   60   C5  00B4  131              MULL3   HST_L_CELLCOUNT(R0),#4,R1
                   51   0C   CO  00B8  132              ADDL    #12,R1
                   50   08   CO  00BB  133              ADDL    #HST_L_OVRFLOW,R0           ;Add in overflow cell
      60  51  00   60   00   2C  00BE  134              MOVC5   #0,(R0),#0,R1,(R0)          ;Clear performance meas data
                              00C4  135
              50  0000'C6   9E  00C4  136              MOVAB   PFM$A_HIST_CHMK(R6),R0
              51   04   60   C5  00C9  137              MULL3   HST_L_CELLCOUNT(R0),#4,R1
                   51   0C   CO  00CD  138              ADDL    #12,R1
                   50   08   CO  00D0  139              ADDL    #HST_L_OVRFLOW,R0           ;Add in overflow cell
      60  51  00   60   00   2C  00D3  140              MOVC5   #0,(R0),#0,R1,(R0)          ;Clear performance meas data
                              00D9  141
              50  0000'C6   9E  00D9  142              MOVAB   PFM$A_HIST_OTHR(R6),R0
              51   04   60   C5  00DE  143              MULL3   HST_L_CELLCOUNT(R0),#4,R1
                   51   0C   CO  00E2  144              ADDL    #12,R1
                   50   08   CO  00E5  145              ADDL    #HST_L_OVRFLOW,R0           ;Add in overflow cell
      60  51  00   60   00   2C  00E8  146              MOVC5   #0,(R0),#0,R1,(R0)          ;Clear performance meas data
                              00EE  147
              50  0000'C6   9E  00EE  148              MOVAB   PFM$A_HIST_SSRV(R6),R0
              51   04   60   C5  00F3  149              MULL3   HST_L_CELLCOUNT(R0),#4,R1
                   51   0C   CO  00F7  150              ADDL    #12,R1
                   50   C8   CO  00FA  151              ADDL    #HST_L_OVRFLOW,R0           ;Add in overflow cells
      60  51  00   60   00   2C  00FD  152              MOVC5   #0,(R0),#0,R1,(R0)          ;Clear performance meas data
                              0103  153
              50  0000'C6   9E  0103  154              MOVAB   PFM$A_HIST_KSRV(R6),R0
              51   04   60   C5  0108  155              MULL3   HST_L_CELLCOUNT(R0),#4,R1
                   51   0C   CO  010C  156              ADDL    #12,R1
                   50   08   CO  0110  157              ADDL    #HST_L_OVRFLOW,R0           ;Add in overflow cells
      60  51  00   60   00   2C  0112  158              MOVC5   #0,(R0),#0,R1,(R0)          ;Clear performance meas data
                              0118  159
                              0118  160              SETIPL  #0                          ;Reset IPL
              50   01   9A  011B  161              MOVZBL  #1,R0                       ;Set success status
                              011E  162  ERR_EXIT:
                        04  011E  163              RET
                              011F  164
                              011F  165
                              011F  166
                              011F  167              .END    CLRPFM
```

```
MPCLRPFM                                      16-SEP-1984 02:13:37  VAX/VMS Macro V04-00      Page  4
Symbol table                                   5-SEP-1984 02:06:07  [MP.SRC]MPCLRPFM.MAR;1         (1)

CLRDATA                          00000017 RG      03
CLRPFM                           00000000 RG      03
ERR_EXIT                         0000011E R       03
EXE$GL_MP                        ******** X       03
HST_L_CELLCOUNT              =   00000000
HST_L_CELLWIDTH             =   00000004
HST_L_FIRSTCELL             =   00000010
HST_L_OVRFLOW              =   00000008
IPL$_TIMER                  =   00000008
MPS$AL_CPUTIME                   ******** X       03
PCB$L_PHD                   =   0000006C
PFM$A_HIST_CHMK                  ******** X       03
PFM$A_HIST_CTX                   ******** X       03
PFM$A_HIST_KSRV                  ******** X       03
PFM$A_HIST_OTHR                  ******** X       03
PFM$A_HIST_PGFL                  ******** X       03
PFM$A_HIST_SRV                   ******** X       03
PFM$A_HIST_SSRV                  ******** X       03
PFM$A_HIST_TIME                  ******** X       03
PFM$L_CNT_ASTSC                  ******** X       03
PFM$L_CNT_CTXSW                  ******** X       03
PFM$L_CNT_EXCHG                  ******** X       03
PFM$L_CNT_INVAL                  ******** X       03
PFM$L_CNT_IWAIT                  ******** X       03
PFM$L_CNT_NWAIT                  ******** X       03
PFM$L_CNT_RESCH                  ******** X       03
PFM$L_CNT_SCHDS                  ******** X       03
PHD$_CPUTIM                 =   00000038
PMS$GL_KERNEL                    ******** X       03
PR$_IPC                          ******** X       03
SCH$GL_NULLPCB                   ******** X       03
SYS$CMKRNL                       ******** GX      03
SYS$EXIT                         ******** GX      03
```

+------------------+
! Psect synopsis !
+------------------+

```
PSECT name              Allocation           PSECT No.  Attributes
-----------             ----------           ---------  ----------
.  ABS  .               00000000 (      0.)  00 (  0.)  NOPIC  USR  CON  ABS  LCL NOSHR NOEXE NORD   NOWRT NOVEC BYTE
$ABS$                   00000000 (      0.)  01 (  1.)  NOPIC  USR  CON  ABS  LCL NOSHR  EXE   RD      WRT NOVEC BYTE
RO_DATA                 00000000 (      0.)  02 (  2.)  NOPIC  USR  CON  REL  LCL NOSHR NOEXE  RD    NOWRT NOVEC LONG
CODE                    0000011F (    287.)  03 (  3.)  NOPIC  USR  CON  REL  LCL NOSHR  EXE   RD    NOWRT NOVEC BYTE
```

+---------------------------+
! Performance indicators !
+---------------------------+

```
Phase                 Page faults   CPU Time        Elapsed Time
-----                 -----------   --------        ------------
Initialization             29       00:00:00.09     00:00:00.80
Command processing        108       00:00:00.69     00:00:04.97
Pass 1                    178       00:00:03.30     00:00:11.00
Symbol table sort           0       00:00:00.38     00:00:00.62
Pass 2                     47       00:00:00.75     00:00:02.16
Symbol table output         5       00:00:00.05     00:00:00.09
```

MPCLRPFM
VAX-11 Macro Run Statistics

```
Psect synopsis output             2    00:00:00.03    00:00:00.04
Cross-reference output            0    00:00:00.00    00:00:00.00
Assembler run totals            372    00:00:05.30    00:00:19.68
```

The working set limit was 1050 pages.
16658 bytes (33 pages) of virtual memory were used to buffer the intermediate code.
There were 20 pages of symbol table space allocated to hold 293 non-local and 3 local symbols.
167 source lines were read in Pass 1, producing 16 object records in Pass 2.
14 pages of virtual memory were used to define 13 macros.

```
                          +------------------------------+
                          ! Macro library statistics !
                          +------------------------------+


Macro library name                        Macros defined
------------------                        --------------
_$255$DUA28:[MP.OBJ]MP.MLB;1                     0
_$255$DUA28:[SYS.OBJ]LIB.MLB;1                   4
_$255$DUA28:[SYSLIB]STARLET.MLB;2                6
TOTALS (all libraries)                         10
```

355 GETS were required to define 10 macros.

There were no errors, warnings or information messages.

MACRO/LIS=LIS$:MPCLRPFM/OBJ=OBJ$:MPCLRPFM MSRC$:MPCLRPFM/UPDATE=(ENH$:MPCLRPFM)+EXECML$/LIB+LIB$:MP.MLB/LIB

VMOUNT
LIS

MPCLRPFM
LIS

MPAST
LIS

MP

MP
MAP

MP
MDL

TRNLOG
LIS

MPCMOD
LIS

MPMACROS
MAR